WHAT IS CLAIMED IS:

1. An interface circuit for interfacing radio frequency communications signals with a medium voltage power line, the interface circuit comprising:

a medium voltage node adapted for connection to the medium voltage power line;

a reactive element adapted for connection to a common potential;

a metal oxide varistor connected between the medium voltage node and the reactive element, wherein the radio frequency communications signals are interfaced to the medium voltage node via the metal oxide varistor.

2. The interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim **1**, wherein the reactive element comprises: a transformer.

3. The interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim **1**, wherein the reactive element comprises:

a transformer, and

a conductive line coupled through a ferrite bead;

wherein the transformer and the conductive line are connected in parallel with one another.

4. The interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim **1**, wherein the radio frequency communications signals include transmitted signals, the interface circuit further comprising:

a first opto coupler adapted to couple in to the interface circuit the transmitted radio frequency communications signals to be interfaced via the medium voltage node.

5. The interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim **4**, wherein the radio frequency communications signals include received signals, the interface circuit further comprising:

a second opto coupler adapted to couple out of the interface circuit the received radio frequency communications signals interfaced via the medium voltage node; and

a radio frequency combiner that is connected to the reactive element, and connected to the first opto coupler so as to make the transmitted radio frequency communication signals available to the medium voltage node via the metal oxide varistor, and connected to the second opto coupler so as to make the received radio frequency communications signals available from the medium voltage node via the metal oxide varistor.

6. The interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim **5**, further comprising:

an amplifier connected between the radio frequency combiner and the second opto coupler so as to provide amplification of the received radio frequency communications signals.

7. The interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim **1**, wherein the radio frequency communications signals include received signals, the interface circuit further comprising:

an opto coupler adapted to couple out of the interface circuit the received radio frequency communications signals interfaced via the medium voltage node.

8. The interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim **1**, wherein the common potential comprises ground.

9. An interface circuit for interfacing radio frequency communications signals with a medium voltage power line, the interface circuit comprising:

a medium voltage node adapted for connection to the medium voltage power line;

a conductive line having a selected length and being adapted for connection to a common potential, the selected length being one quarter of the wavelength of the radio frequency communications signals; and

a metal oxide varistor connected between the medium voltage node and the conductive line, wherein the radio frequency communications signals are interfaced to the medium voltage node via the metal oxide varistor.

10. The interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim **9**, wherein the radio frequency communications signals include transmitted signals, the interface circuit further comprising:

a first opto coupler adapted to couple in to the interface circuit the transmitted radio frequency communications signals to be interfaced via the medium voltage node.

11. The interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim **10**, wherein the radio frequency communications signals include received signals, the interface circuit further comprising:

a second opto coupler adapted to couple out of the interface circuit the received radio frequency communications signals interfaced via the medium voltage node; and

a radio frequency combiner that is connected to the reactive element, and connected to the first opto coupler so as to make the transmitted radio frequency communication signals available to the medium voltage node via the metal oxide varistor, and connected to the second opto coupler so as to make the received radio frequency communications signals available from the medium voltage node via the metal oxide varistor.

12. The interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim **11**, further comprising:

an amplifier connected between the radio frequency combiner and the second opto coupler so as to provide amplification of the received radio frequency communications signals.

13. The interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim **9**, wherein the radio frequency communications signals include received signals, the interface circuit further comprising:

an opto coupler adapted to couple out of the interface circuit the received radio frequency communications signals interfaced via the medium voltage node.

14. The interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim **9**, wherein the common potential comprises ground.

15. A method for receiving a digital signal from a power line carrying both the digital signal and a powerline voltage waveform, wherein the digital signal is modulated by an RF carrier and the powerline voltage waveform is in the 50-60Hz band, comprising

receiving the digital signal through a high pass filter while blocking or attenuating the powerline voltage, wherein the high pass filter comprises a metal oxide varistor (MOV).

16. The method for receiving a digital signal from a power line of claim **15**, wherein the high pass filter further comprises a reactive element connected between the MOV and a common potential.

17. The method for receiving a digital signal from a power line of claim **15**, wherein the high pass filter further comprises a selected length conductive line connected between the MOV and a common potential, the selected length being one quarter of the wavelength of the RF carrier.